

REMARKS/ARGUMENTS

Favorable reconsideration of this application is requested in view of the above amendments and in light of the following remarks and discussion.

Claims 1-12, 14-19, and 21 are pending. Claims 1, 12, and 14 are amended. Support for the amendments to Claims 1 and 14 can be found in Fig. 2, for example. Support for the amendment to Claim 12 can be found in Fig. 6, for example. No new matter is added.

In the outstanding Office Action, Claims 1, 10-12, 14, and 19 were rejected under 35 U.S.C. § 102(e) as anticipated by Ma et al. (U.S. Patent No. 6,554,954, herein “Ma”). Claims 1, 10-12, 14, and 19 were rejected under 35 U.S.C. § 102(b) as anticipated by Koshiishi et al. (U.S. Patent No. 5,919,332, herein “Koshiishi”). Claims 2-8, 13, 15-17, and 20 were rejected under 35 U.S.C. § 103(a) as obvious over Ma or Koshiishi. Claims 9 and 18 were rejected under 35 U.S.C. § 103(a) as obvious over Ma or Koshiishi in view of Tong et al. (U.S. Patent Publication No. 2004/0083975, herein “Tong”).

Applicants first note MPEP § 2131 which states that to anticipate a claim, the reference must teach every element of the claim.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Further, Applicants note the requirements for a *prima facie* case of obviousness as set forth in the MPEP §2143. This section states that to establish a *prima facie* case of obviousness, three basic criteria first must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one

of ordinary skill in the art, to modify the references or to combine the references teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all the claim limitations.

Regarding the rejection of Claims 1, 10-12, 14, and 19 as anticipated by Ma and the rejection of Claims 2-8, 13, 15-17, and 20 as obvious over Ma, those rejections are respectfully traversed by the present response.

The invention recited in the amended Claim 1 is directed to a plasma processing apparatus including a plasma processing chamber; a susceptor installed within the plasma processing chamber, **the susceptor being made of a conductive material**; an electrostatic chuck formed on the susceptor for mounting thereon a substrate to be processed; **a ring member directly disposed on the susceptor** to surround a periphery of the substrate to be processed with a gap therebetween when the substrate to be processed is mounted on the electrostatic chuck; and a lower ring body placed below the substrate to be processed and the ring member. Further, when the substrate to be processed is mounted on the electrostatic chuck, **a whole upper surface of the lower ring body is placed below the periphery of the substrate to be processed and an inner circumference of the ring member.**

In contrast, Ma describes an electrically conductive collar or ring surrounding a workpiece in a plasma chamber. In Fig. 2 of Ma, a silicon outer ring (50), relied on in the outstanding Office Action for the recited ring member, is disposed on a dielectric shield. While the ring member recited in Claim 1 is **directly disposed on the conductive susceptor**, the silicon outer ring (50) of Ma is **directly disposed on a dielectric material**. Therefore, Ma fails to teach or suggest the above-noted feature of the invention recited in Claim 1.

Additionally, Ma fails to teach or suggest that a whole upper surface of a lower ring body is placed below a periphery of a substrate to be processed and an inner circumference of a ring member as recited in amended independent Claim 1. As shown in Fig. 2, the silicon

inner ring (52) is exposed to the interior of the process chamber, and at least a portion of the silicon inner ring (52) is not disposed beneath the substrate (10). Thus, Ma fails to disclose at least this additional feature recited in amended independent Claim 1. Accordingly, Applicants respectfully submit that amended independent Claim 1 patentably distinguishes over Ma for at least the reasons discussed above.

Amended independent Claim 14 recites substantially similar features to those discussed above regarding amended independent Claim 1 and patentably distinguishes over Ma for at least the same reasons as amended independent Claim 1 does.

Applicants respectfully submit that as Claims 2-8, 10-11, 15-17, and 19 each depend from one of Claims 1 and 14, Claims 2-8, 10-11, 15-17, and 19 patentably distinguish over Ma for at least the same reasons as Claims 1 and 14 do.

Regarding the rejection of Claim 12 as anticipated by Ma, that rejection is respectfully traversed by the present response.

The invention recited in Claim 12 is directed to a plasma processing apparatus including a plasma processing chamber; a susceptor installed within the plasma processing chamber; an electrostatic chuck formed on the susceptor for mounting thereon a substrate to be processed; and a ring member disposed to surround a periphery of the substrate to be processed with a gap therebetween. Further, the electrostatic chuck is located directly below the substrate to be processed and the ring member.

In contrast, Ma describes that located directly below the silicon outer ring (50), relied on in the outstanding Office Action for a ring member, is not an electrostatic chuck (24), (26) but the dielectric shield (40). Accordingly, Ma does not teach or suggest an electrostatic chuck is located directly below a ring member, and amended independent Claim 12 patentably distinguishes over Ma for at least the reasons discussed above.

Regarding the rejection of Claims 1, 10-12, 14, and 19 as anticipated by Koshiishi and the rejection of Claims 2-8, 13, 15-17, and 20 as obvious over Koshiishi those rejections are respectfully traversed by the present response.

Koshiishi describes a plasma processing apparatus for performing plasma processing on a substrate to be processed. As shown in Fig. 11 of Koshiishi, a lower surface of a circumferential edge portion of a wafer W is mounted on an upper surface of a step portion (61a) of an inner focus ring (61), relied on in the outstanding Office Action for the recited lower ring. Further, an inner circumferential portion (62a) of an outer focus ring (62), relied upon in the outstanding Office Action for the recited ring member, is mounted on a step portion (61b) of the inner focus ring (61) apparatus for compensation of an edge ring. However, Koshiishi also describes that a center portion (61c) of the inner focus ring (61) and the upper surface of the outer focus ring (62) are set to form one equal plane (see column 16, lines 27-29 in the description of Koshiishi). Thus, Koshiishi does not teach or suggest that a **whole upper surface** of the lower ring body is placed below the periphery of the substrate to be processed and an inner circumference of the ring member as recited in amended independent Claims 1 and 14. Accordingly, Applicants respectfully submit that amended independent Claims 1 and 14 patentably distinguish over Koshiishi for at least the reasons discussed above.

Applicants respectfully submit that as Claims 2-8, 10-11, 15-17, and 19 each depend from one of Claims 1 and 14, Claims 2-8, 10-11, 15-17, and 19 patentably distinguish over Koshiishi for at least the same reasons as Claims 1 and 14 do.

Further, in all the figures of Koshiishi, a susceptor (6), not an electrostatic chuck (11), is located directly below an outer focus ring (62), relied upon in the outstanding Office Action for the recited ring member. Thus, Koshiishi does not teach or suggest that an

electrostatic chuck is located directly below a ring member. Accordingly, Koshiishi fails to teach or suggest all of the features of amended independent Claim 12.

Regarding the rejection of dependent Claims 9 and 18 as obvious over Ma or Koshiishi and Tong, that rejection is respectfully traversed. Claims 9 and 18 depend from amended independent Claims 1 and 14, respectively, and patentably distinguish over Ma and Koshiishi for at least the same reasons as Claims 1 and 14.

The outstanding Office Action relies on Tong for the specific materials of the ring member. However, Tong fails to remedy the deficiencies of Ma and Koshiishi discussed above. For example, the edge ring (108), relied on in the outstanding Office Action to provide specific materials for the recited lower ring, is disposed directly on an adjustable RF coupling ring (106) and not on a susceptor. Thus, no reasonable combination of Ma, Koshiishi, and Tong would include all of the features of either of amended independent Claims 1 and 14, from which Claims 9 and 18 depend, respectively. Accordingly, Applicants respectfully submit that the rejection of Claims 9 and 18 is overcome.

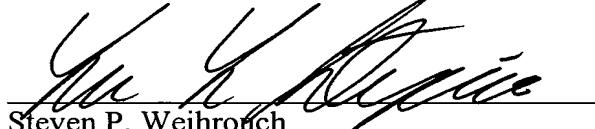
Applicants respectfully note that Claim 21 has not been addressed in the outstanding Office Action and assume that Claim 21 is not rejected.

For the foregoing reasons, it is respectfully submitted that this application is now in condition for allowance. A Notice of Allowance for Claims 1-12, 14-19, and 21 is earnestly solicited.

Should Examiner MacArthur deem that any further action is necessary to place this application in even better form for allowance, she is encouraged to contact Applicants' undersigned representative at the below-listed telephone number.

Respectfully submitted,

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